



EPO-TEK® EE178-9

Technical Data Sheet
For Reference Only
Electrically Conductive, Silver Epoxy

Date: March 2022
Rev: IV
No. of Components: Two
Mix Ratio by Weight: 1 : 1
Specific Gravity: Part A: 2.12 Part B: 3.48
Pot Life: 8 Hours
Shelf Life- Bulk: Five months at room temperature

Recommended Cure: 180°C / 1 Hour

Minimum Alternative Cure(s):

May not achieve performance properties listed below
180°C / 15 Minutes
150°C / 30 Minutes

NOTES:

- Container(s) should be kept closed when not in use.
- Filled systems should be stirred thoroughly before mixing and prior to use.
- Performance properties (rheology, conductivity, others) of the product may vary from those stated on the data sheet when bi-pak/syringe packaging or post-processing of any kind is performed. Epoxy's warranties shall not apply to any products that have been reprocessed or repackaged from Epoxy's delivered status/container into any other containers of any kind, including but not limited to syringes, bi-paks, cartridges, pouches, tubes, capsules, films or other packages.
- Syringe packaging will impact initial viscosity and effective pot life, potentially beyond stated parameters.

Product Description: A two component, electrically conductive epoxy adhesive designed for semiconductor, hybrid, PCB and opto-electronic assemblies. It was designed for precision dispensing or stamping of small dot arrays, in ultra fine pitch applications such as connectors to flex-PCB, SMD or flip chip bonding. It is a fast curing, thixotropic paste with low bleed out.

Typical Properties: Cure condition: 180°C / 1 Hour Different batches, conditions & applications yield differing results.

Data below is not guaranteed. To be used as a guide only, not as a specification. * denotes test on lot acceptance basis

PHYSICAL PROPERTIES:

* Color (before cure):	Part A: Silver	Part B: Silver
* Consistency:	Thixotropic paste	
* Viscosity (23°C) @ 100 rpm:	1,500 – 2,500	cPs
Thixotropic Index:	3.3	
* Glass Transition Temp:	≥ 50	°C (Dynamic Cure: 20-250°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)
Coefficient of Thermal Expansion (CTE):		
Below Tg:	51	× 10 ⁻⁶ in/in°C
Above Tg:	219	× 10 ⁻⁶ in/in°C
Shore D Hardness:	48	
Lap Shear @ 23°C:	1,436	psi
Die Shear @ 23°C:	≥ 5	Kg 1,778 psi
Degradation Temp:	369	°C
Weight Loss:		
@ 200°C:	0.22	%
@ 250°C:	1.03	%
@ 300°C:	2.28	%
Suggested Operating Temperature:	< 300	°C (Intermittent)
Storage Modulus:	299,933	psi
* Particle Size:	≤ 20	microns

ELECTRICAL AND THERMAL PROPERTIES:

Thermal Conductivity:	1.6	W/mK
* Volume Resistivity @ 23°C:	≤ 0.0006	Ohm-cm

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This information is based on data and tests believed to be accurate. Epoxy Technology, Inc. makes no warranties (expressed or implied) as to its accuracy and assumes no liability in connection with any use of this product.

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